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COUNTRY ANALYSIS BRIEFS

World Energy Hotspots

Last Updated: September 2005

Overview

Click on the country name in the table below to view the full report for that country, if available.

Oil and Natural Gas Hotspots Factsheet

Country/Region	Petroleum Prod'n (2004) ('000 bbl/d)	Petroleum Prod'n (2010) ('000 bbl/d)	U.S. Imports (Jan-Mar '05) ('000 bbl/d)[1]	Strategic Importance/Threats
Algeria	1,900	2,000	414	Armed militants have confronted gov't forces
Bolivia	40	45*	0	Large reserves of NG (24 Tcf), exports may be delayed due to controversial new laws unfriendly to foreigners.
Caspian Sea	1,800	2,400 - 5,900	0	BTC opened, many ethnic conflicts, high expectations for future oil production, no maritime border agt.
Caucasus Region[2]	negligible	negligible	0	Strategic transit area for NG and oil pipelines
Colombia	551	450*	110	Destabilizing force in S. America, oil exports subject to attack by protesters, armed militants.
Ecuador	535	850*	316	Unstable politically, protests threaten oil export

Indonesia	900	1,500	0	No longer a net exporter, separatist movements, Peacekeeping forces in place, Violence threat to Strait of Malacca
Iran	4,100	4,000	0	Even though no direct imports to US, still exports 2.5 million bbl/d to world markets
Iraq	2,025	3,700	516	April 2003-May 2005 - 236 attacks on Iraqi Infrastructure
Libya	1,600	2,000	32	Newly restored diplomatic relations, Western IOCs not awarded contracts in 2nd EPSA round
Nigeria	2,500	2,600	1,071	High rate of violent crime, large income disparity, tribal/ethnic conflict and protests have repeatedly suspended oil exports
Russia	9,300	11,100	419	2nd only to S.A. in oil production, Yukos affair has bred uncertain investment climate
Saudi Arabia	10,400	13,200	1,614	Long term stability of al-Saud family, Western oil workers subject to attacks
Sudan	344	530*	0	Darfur crisis & N-S conflict threatens government stability, security of oil transport
Venezuela	2,900	3,700	1,579	Large exporter to U.S., President Chavez frequently threatens to divert those exports, nationalize resource base

*Estimate or non-EIA source

[1]Although a country may not have direct exports to the U.S. it may still have significant exports to world markets

[2]Includes production from Georgia and Armenia. Azerbaijan production included in 'Caspian'.

Bolivia

Proposals to develop and export Bolivia's natural gas reserves have contributed to ongoing unrest in the country.

According to the *Oil and Gas Journal*, Bolivia's proven natural gas reserves were 24 trillion cubic feet (Tcf), as of January 2005. A study by U.S.-based consulting firm DeGolyer & MacNaughton in April 2003, however, certified Bolivia's natural gas reserves at 54.9 Tcf, which would give Bolivia the second-largest reserves in South America after Venezuela. Bolivia's main hope for future economic growth will likely hinge on increasing natural gas exports and becoming a major energy hub for South America's Southern Cone in coming years. Currently, Bolivia exports gas to Brazil and Argentina, but plans to export more in the future. Other possible future markets for Bolivian natural gas include Mexico and the United States.

The decision whether to export liquefied natural gas (LNG) from a port in Chile or from Peru is an important, politically sensitive, question for Bolivia. Economically, it appears to make more sense for Bolivia to export gas through Chile, since building a pipeline to Peru will cost significantly more money. However, opposition to going through Chile has been strong because of historical events; namely, Bolivia lost access to the Pacific Ocean in 1883, following a war with Chile. Popular revolt against former President Sanchez de Lozada, which ultimately forced him out of power, began on September 15, 2003, when indigenous and workers groups protesting, striking, and setting up roadblocks in protest of the government's plan to export natural gas to the United States and Mexico via Chile. In addition, many Bolivians opposed Sanchez de Lozada's promotion of foreign investment and privatization. Demonstrations against Sanchez de Lozada's natural gas plans subsequently spiraled into widespread protests against the government's free-market policies and its failure to alleviate poverty. During the protests, many called for the nationalization of the country's oil and natural gas reserves.

On July 18, 2004, Bolivians approved a series of referendum questions, giving them the option of changing the country's Hydrocarbons Law, re-nationalizing the natural gas sector; repealing former President Sanchez de Lozada's privatization policy, using natural gas as a means of pressure on Chile to allow Bolivia access to the Pacific Ocean, and increasing taxes on foreign energy companies. Despite the referendum, however, controversy and unrest continued over energy prices and future development of Bolivia's huge natural gas reserves.

In January 2005, President Mesa, who succeeded Sanchez de Lozada, was forced to back down on proposed fuel price increases, and in March 2005, he threatened to resign amidst mounting protests over the Hydrocarbons Law and other issues. Among other things, the opposition was demanding that royalties be raised to 50 percent on oil and gas companies operating in the country. In the end, the Bolivian chamber of deputies voted to keep hydrocarbon royalties at 18 percent, while imposting a 32 percent tax on oil and gas production at the wellhead. In June 2005, President Mesa resigned as protests and unrest continued, including the brief seizure of gas fields operated by BP and Repsol. Mesa was replaced by an interim President, Eduardo Rodíguez. Largely as a result of all this political uncertainty and unrest, it appears that investment in Bolivia's natural gas sector plummeted during the first half of 2005. If this continues, it could threaten Bolivian gas production.

Caspian Sea/Caucasus

Ethnic conflicts, war, and unrest pose potential threats to growing oil and gas exports from the region.

The Caspian Sea is developing into a significant oil and gas exporting area, and the Caucasus is a potentially major world oil transit center. Proven oil reserves for the entire Caspian Sea region are estimated at 17-44 billion barrels, comparable to proven reserves in the North Sea (around 15-17 billion barrels). Natural gas reserves are larger, accounting for almost two-thirds of the region's total hydrocarbon reserves (proved plus possible). Exporting this oil and gas to world markets, however, is complicated by several factors, including geography and geopolitics.

The region's existing export infrastructure sits dangerously close to ethnic conflicts in Chechnya, Georgia, and the autonomous enclave of Nagarno-Karabakh. War in the Russian republic of Chechnya has caused a humanitarian crisis in the region, with tens of thousands of Chechens displaced and living in refugee camps in neighoring Inushetia and elsewhere. Azerbaijan's northern “early oil” pipeline, which can carry 100,000 bbl/d, passes for 80 miles through Chechnya en route to the Black Sea port of Novorosiisk. The war in Chechnya has prompted Russia's oil pipeline monopoly, Transneft, to construct a 300,000-bbl/d Chechnya bypass, which was completed in 2000. However, a segment of the line passes along the Chechen border in the southern Russian republic of Dagestan before traversing Stavropol en route Terskoye in North Ossetia. Dagestan has security concerns of its own, as fighting has occurred in the republic between Islamic militants (largely from Chechnya) and Russian forces.

The western route for "early oil" from Azerbaijan, (as well as the 1-million-bbl/d Baku-Tiblisi-Ceyhan pipeline, scheduled to come online in late 2005/early 2006) passes just north of another potential conflict zone in the breakaway Azeri region of Nagorno-Karabakh. Nagorno-Karabakh is a mountainous territory populated mainly by ethnic Armenians but nestled inside predominantly Muslim Azerbaijan. Its declaration of independence in 1988 sparked a six-year war that killed more than 30,000 people and drove about 1 million people, mostly Azeris, from their homes. Six years of fighting ended in a Russian-mediated cease-fire that left the enclave and some surrounding territory--about 16 percent of the territory of Azerbaijan--firmly under control of an unrecognized ethnic Armenian government and its militia. Since the May 1994 ceasefire, hundreds of people have been killed each year in sporadic violence and by mines that mark a no-man's-land around the 1,600-square mile mountainous region.

Another flashpoint in the Caspian/Caucasus region is Georgia, including the country's remote Pankisi Gorge, which Chechen rebels reportedly use as a base and refuge. In recent years, the number of Chechen refugees in the Gorge has reportedly decreased from 7,000 to 2,000, as Russian and Chechen officials have urged the refugees to return to Chechnya. The remaining refugees in the gorge have been frequently targeted by Georgian security forces as having ties to rebel groups in Chechnya.

In January 2004 Mikhail Saakashvili was elected to a 5-year term as President of Georgia following disputed parliamentary elections in November 2003 (as a result of popular demonstrations following these elections, President Shevardnadze resigned on November 23, 2003). In early August 2004, Saakashvili -- whose goal is to reintegrate Abkhazia and South Ossetia into Georgia -- announced, after meeting with former U.S. Secretary of State Colin Powell, that he wanted to "demilitarize" and "democratize the whole region." This statement followed a statement a few days earlier in which Saakashvili threatened to open fire on ships which "illegally" entered waters off Abkhazia. Russia reacted by stating that it would respond to any such attack with "the necessary rebuff." In addition to Abkhazia, tensions with South Ossetia have flared recently, with the speaker of South Ossetia's breakaway parliament talking of a "prologue to war which would make Chechnya look small." Saakashvili stated recently that ""We are ready to fight like mad for the restoration of our territorial integrity."

Besides the ethnic conflicts in Nagorno-Karabakh, Abkahazia, and South Ossetia which affect transit routes for regional energy flows, political problems also are affecting Caspian oil and gas production. Because the southern Caspian littoral states of Azerbaijan, Iran, and Turkmenistan have been unable to reach any agreement with their neighbors on delineation of the Sea's resources, development of the Caspian’s southern offshore fields has been hindered. In July 2001, Iran issued a stern warning to Azerbaijan regarding exploration activities being carried out in the Alov-Sharg-Araz block. In an escalation of tensions, Iranian military aircraft reportedly violated Azeri air space, and the head of Iran's Revolutionary Guards pointedly reminded Azerbaijan that it used to be a province of Iran, and that it should not act in any way that would antagonize Iran. In addition to the Iran-Azerbaijan dispute, Turkmenistan claims that portions of the Azeri and Chirag fields--which Turkmenistan calls Khazar and Osman, respectively--lie within its territorial waters rather than Azerbaijan's. Turkmenistan has insisted that work at the Azeri and Chirag fields, which is being carried out by the Azerbaijan International Operating Company (AIOC), be stopped.

Meanwhile, Turkmenistan and Azerbaijan remain locked in a dispute over the Serdar/Kyapaz field. Turkmen officials have discussed development plans with Canadian firms (most recently Buried Hill Energy in January 2005), and Azeri officials have discussed development plans with Russian investors in earlier years. Neither country has been unable to come to an agreement, and so development of the field will likely remain dormant until then. Azerbaijan has objected to Iran's decision to award Royal Dutch/Shell and Lasmo a license to conduct seismic surveys in a region that Azerbaijan considers to fall in its territory. Meanwhile, Russia, Azerbaijan, and Kazakhstan have made bilateral arrangements amongst themselves, and are developing major projects in partnerships with foreign investors.

Ecuador

Protests in August 2005 shut down almost all of Ecuador 's oil production.

Ecuador, which produces around 520,000 bbbl/d of crude oil and exports around 360,000 bbl/d (including around 290,000 bbl/d to the United States), has experiencing significant political and social instability which has affected the country's energy sector in recent months. In mid-August 2005, due to protests targeting oil production fields in two key production regions (Orellana and Sucumbio) in eastern Ecuador, the government had declared force majeure for the export contracts of state oil company Petroecuador. The protestors were demanding the termination of a contract between Ecuador and Occidental, which is accused of violating the terms of its deal by selling a 40 percent stake in its Block 15 operations in the affected region to EnCana, a Canadian oil company. Demonstrators also were demanding that oil companies provide more local jobs and infrastructure investment.

Prior to the protests, Petroecuador produced around 200,000 bbl/d out of Ecuador's total output. On August 25, an agreement was reached between protestors and the government, ending the 6-day strike. However, it was expected that the restoration of remaining production would likely take several more months due to damage and vandalism of the country's oil infrastructure.

Ecuador's recent political unrest flared on April 20, 2005, when President Lucio Gutiérrez fled to Brazil after the Ecuadorian Congress voted to remove him and replace him with Vice-President Alfredo Palacio. Later that week, the government appointed Jose Gallardo as the new energy minister, but he refused the position for "personal reasons." On May 4, Fausto Cordovez was named the new energy minister of Ecuador. Cordovez's main goal was to implement Ecuador's plans to increase its crude oil exports. On June 16, President Palacio named Iván Rodríguez as the new Energy Minister after Cordovez resigned after criticism for debts to a private bank. In addition, the head of Petroecuador, Carlos Pareja Yanuzelli, resigned in early August at the request of Minister Rodríguez following corruption allegations. He was replaced by Luis Alberto Roman.

Iran

Iran 's development of a nuclear program has raised concerns that international disagreement over the issue could disrupt the country's oil exports.

Tensions between Iran and the rest of the world have been increasing in recent months, with concerns centering on Iran's nuclear program. In addition, the June 2005 Iranian election resulted in the victory of Mahmoud Ahmadinejad, widely believed to be a hard-line religious conservative, as the coutnry's new President. In early August 2005, an Iranian foreign ministry spokesman rejected proposals from the European Union over Iran's nuclear program, saying, "The Europeans' submitted proposals regarding the nuclear case are not acceptable for Iran." On August 24, 2005, the United States indicated that a report by the International Atomic Energy Agency (IAEA), which found that bomb-grade traces of uranium in Iran came from contaminated Pakistani equipment, did not resolve U.S. "concerns" and "questions" about Iran's nuclear program.

In June 2003, Iran had stated that it would not agree to more intrusive nuclear inspections demanded by the International Atomic Energy Agency (IAEA), the United States, and the European Union. On October 6, 2003, Iran's envoy to the IAEA, Ali Akbar Salehi, had said that Iran would withdraw from the Nuclear Non Proliferation Treaty (NNPT) if Western pressure continued. On December 18, 2003, Iran signed a protocol to the NNPT that allowed the IAEA to have more comprehensive access to sites in the country. In mid-March 2004, however, Iran announced that it was barring nuclear inspectors from entering the country for an indefinite period of time after the IAEA passed a resolution rebuking Iran for failure to fully disclose the details of its past nuclear activity. Iran shortly reversed course and allowed IAEA inspectors to continue their work. On August 9, 2004, President Bush stated that "Iran must comply with the demands of the free world" and abandon its suspected nuclear weapons program.

In late June 2003, following pressure from the United States, Japax said that it would not sign a major oil deal with Iran -- on development of the gigantic Azadegan field -- unless Iran addressed international concerns over its nuclear program. In February 2004, however, a Japanese consortium led by Inpex signed an agreement on the $2-$2.8 billion project. Inpex, which has no upstream experience of its own, hopes to bring in an international partner -- possibly Total, Statoil, Sinopec, or Lukoil (while Shell has indicated that it is not interested) -- as the field's operator. One Japanese partner in the Inpex consortium -- Tomen -- has pulled out of the project (possibly under U.S. pressure), while another member -- Japex -- is considering pulling out as well. Initial production of medium-sour crude oil from Azadegan could come in 2007, ramping up from 50,000 bbl/d to 260,000 bbl/d by 2012. At its peak, Azadegan production could account for as much as 6 percent of Japan's oil imports.

On January 29, 2002, only four months after the September 11, 2001 terrorist attacks on America, President George W. Bush declared in his State of the Union address that Iran, along with Iraq (see below) and North Korea, constituted an "axis of evil" that supported terrorism. Also, on May 21, 2002, the US State Department named Iran, Iraq, Libya, and Sudan (plus Syria and North

Korea) as state sponsors of terrorism. In March 2003, President Bush extended sanctions originally imposed in 1995 by President Clinton for another year, citing Iran's "support for international terrorism, efforts to undermine the Middle East peace process, and acquisition of weapons of mass destruction." The United States has had no diplomatic ties with Iran since 1979, after Islamic militants stormed the US Embassy and held 52 Americans hostage for 444 days.

In 2004, Iran produced around 4.1 million bbl/d of oil (of which 3.9 million bbl/d was crude), with net exports of around 2.6 million bbl/d. It is possible that, with sufficient investment, Iran could increase its oil production capacity significantly. Iran produced 6 million bbl/d in 1974, but -- prior to 2004 -- had not surpassed 3.9 million bbl/d on an annual basis since the 1978/79 Iranian revolution.

Iraq

Attacks by insurgents against Iraq's oil infrastructure regularly disrupt the country's oil exports.

Iraq now finds itself in a period of uncertainty and transition after more than three decades of Ba'ath party rule. Following the end of Saddam Hussein's rule in the spring of 2003, Iraq was governed for a year by the "Coalition Provisional Authority (CPA)" led by the United States and the United Kingdom. On June 28, 2004, the CPA transferred power to a sovereign Iraqi interim government, with national elections held on January 30, 2005. On May 3, 2005, the new transitional government was sworn in, with Ibrahim Jaafari as Prime Minister. A permanent constitution is to be voted on in an October 15, 2005 referendum. After that, assuming the constitution is approved, elections for a permanent government are scheduled to take place in December 2005. Iraqi oil production currently is around 1.9 million bbl/d, with net exports of about 1.45 million bbl/d.

Prior to the war, during January and February 2003, Iraq was producing around 2.5 million bbl/d and exporting 2.0 million bbl/d, mainly via the country's two U.N.-authorized export routes: the Turkish port of Ceyhan; and the Persian Gulf port of Mina al-Bakr (now called "Basra"). In addition, Iraq reportedly was smuggling 200,000-400,000 bbl/d of crude oil and products via a number of routes, including Turkey, Syria, Iran, Dubai, and Jordan. Today, the Kirkuk-Ceyhan is frequently offline due to sabotage (e.g., at the end of February 2005), and the Basra port has periodic problems as well.

In the years preceding the war, and in anticipation of the eventual lifting of economic sanctions, Iraq had signed or otherwise negotiated several potentially lucrative oil and gas deals (which will come into effect when sanctions are lifted) with companies from Russia, France, and China, and also had invited international partners to invest in natural gas projects worth $4.2 billion. Following the war, the status of these agreements is now somewhat unclear.

According to the *Oil and Gas Journal*, Iraq contains 115 billion barrels of proven oil reserves, the third largest in the world (behind Saudi Arabia and Canada). Estimates of Iraq's oil reserves and resources vary widely, however, given that only 10 percent or so of the country has been explored. Some analysts (the Baker Institute, Center for Global Energy Studies, the Federation of American Scientists, etc.) believe, for instance, that deep oil-bearing formations located mainly in the vast Western Desert region, for instance, could yield large additional oil resources (possibly another 100 billion barrels or more), but have not been explored. Other analysts, such as the US Geological Survey, are not as optimistic, with median estimates for additional oil reserves closer to 45 billion barrels. Historically, Iraqi production peaked in December 1979 at 3.7 million bbl/d, and then in July 1990, just prior to its invasion of Kuwait, at 3.5 million bbl/d. As of early August 2005, however, Iraq was producing only 1.9 million bbl/d.

Libya

The lifting of economic sanctions by the United States in 2004 has renewed interest in Libya 's oil sector.

On April 5, 1999, more than 10 years after the 1988 bombing of Pan Am flight 103 over Lockerbie, Scotland that killed 270 people, Libya, which produces 1.5 million bbl/d of oil and exports around 1.2 million bbl/d, extradited two men suspected in the attack. In response, the United Nations suspended economic and other sanctions against Libya which had been in place since April 1992. These sanctions, expanded in November 1993, had included a freeze on Libyan funds overseas, a ban on the sale of oil equipment for oil and gas export terminals and refineries, and restrictions on civil aviation and the supply of arms.

On June 28, 2004, direct diplomatic relations between the United States and Libya were restored after 24 years. In February and April 2004, U.S. economic sanctions against Libya had been eased, eliminating travel restrictions and allowing investment by U.S. corporations, including in Libya's petroleum sector, as well as Libyan investment in the United States. The application to Libya of the ILSA was terminated in April 2004. This followed fulfillment of Libyan commitments to rid itself of weapons of mass destruction (WMD) and Missile Technology Control Regime (MTCR)-class missile programs, and to renounce terrorism. Finally, on September 20, 2004, President Bush signed Executive Order 12543, lifting most remaining U.S. sanctions against Libya and paving the way for U.S. oil companies to try to secure contracts or revive previous contracts for tapping Libya's oil reserves. The Order also revoked any restrictions on importation of oil products refined in Libya, and unblocked certain formerly blocked assets.

With the relaxation of sanctions and the restoration of US-Libyan diplomatic relations, numerous oil and gas companies are eager to either expand operations and/or reenter the country. its estimated 36 billion barrels of high-quality oil reserves as well as geographic proximity to western markets. Currently, Libya produces around 1.7 million bbl/d of oil, but hopes are that output will increase rapidly in coming years, to 2.0 million bbl/d by early 2006 and possibly above 3.0 million bbl/d by 2010.

On January 30, 2005, Libya held its first round of oil and gas exploration leases since the United States ended most sanctions against the country. Known as EPSA 4, the round -- launched in August 2004 -- offered 15 exploration areas for auction. Approximately 56 companies registered 104 bids, but in the end only a handful of companies actually won acreage in the intensely competitive bidding. In the end, acreage in 9 areas (5 onshore oil blocks and 4 offshore, gas-prone blocks) went to U.S.-based Occidental Petroleum, while ChevronTexaco and Amerada Hess won acreage in 1 block each. Other companies with winning bids included the Indian Oil Corp., Liwa (UAE), Oil Search Ltd. (Australia), Petrobras (Brazil), Sonatrach (Algeria), Verenex (Canada), and Woodside (Australia). Another round of bidding is scheduled to take place in October 2005, with 120 companies reportedly expressing interest in 26 blocks.

Leading foreign oil producers in Libya include Eni, which has been operating in the country since 1959, France's Total, and Repsol YPF. Two U.S. oil companies (Exxon and Mobil, now ExxonMobil) withdrew from Libya in 1982, following a US trade embargo begun in 1981. Five other US companies (Amerada Hess, Conoco, Grace Petroleum, Marathon, and Occidental) remained active in Libya until 1986, when President Reagan ordered them all to cease activities there. Conoco, Amerada Hess and Marathon made up the "Oasis Group," which reportedly was producing around 1 million bbl/d in 1969 and 400,000 bbl/d in 1986. Today, the Oasis ("Waha" in Arabic) fields produce around 300,000-350,000 bbl/d. In late July 2005, Occidental indicated that it had reached a deal with Libya on returning to its former assets in the country.

Nigeria

Continuing tension in Nigeria's oil-rich Niger Delta could lead to disruptions in oil production and exports.

Since his election in May 1999 (and re-election in April 2003), President Obasanjo has been faced with ongoing inter-ethnic tensions and persistent political and ethnic strife in the Niger Delta region, including violence, kidnapping, sabotage and the seizure of oil facilities. Such strife often disrupts Nigerian oil production. In December 2004, for instance, SPDC and ChevronTexaco suspended Nigerian oil exports of 134,000 bbl/d due to unrest in the Niger Delta. In January 2005, ChevronTexaco announced that it was losing 140,000 bbl/d of oil due to the closure of facilities in the Niger Delta. The Nigerian National Petroleum Corporation (NNPC) estimates that from January 2004 to September 2004, 581 cases of pipeline vandalism were recorded. In December 2004, an explosion at a petroleum products pipeline in Ilado attributed to pipeline vandals resulted in the death of 26 people. As a result of frequent attacks on oil and electricity infrastructure, the Nigerian Legislative Committee proposed an anti-vandalism law in December 2004, outlining penalties including life imprisonment for the crime.

On April 24, 2004, five people were killed in Nigeria's Delta region, including two Americans and three Nigerians, when gunmen attack a boat carrying oil workers. The five oil workers were reportedly investigating ChevronTexaco facilities which had been abandoned in March 2003 but had since been considered for re-opening. Following the attack, ChevronTexaco withdrew all personnel from the Western Delta region and suspended activities in the area pending an assessment of the security situation. In June 2004, labor unions staged a three-day general strike, threatening Nigerian oil exports.

In March 2003, ChevronTexaco suspended its oil production in the Niger Delta region, declaring force majeure on its exports following violent clashes between the Ijaw and the Itsekiri ethnic groups which threatened the operations of the oil companies in the area. Shell, the other company with facilities in the region, also moved to shut down its operations and evacuate personnel. At the peak, a total of 817,500 bbl/d, or nearly 40 percent of Nigeria's production, was shut in during this unrest. On April 4, 2003, ChevronTexaco announced that "operations staff and support workers are returning to the Escravos terminal in the Western Niger Delta area of Nigeria and a gradual return to production is beginning." On April 10, 2003, Royal Dutch/Shell announced that it had restarted 100,000 barrels per day of production and two weeks later, ChevronTexaco lifted the force majeure on crude oil exports from Escravos.

In general, the security situation in Nigeria is characterized by high rates of violent crime, ethnic and religious strife. Of particular concern to non-Muslims has been the imposition of Islamic Law (Sharia) in the country's predominantly Muslim northern states. Besides unrest and political instability, Nigeria also faces serious economic problems, including wide income disparities.

Illegal fuel siphoning as a result of a thriving black market for fuel products has increased the number of oil pipeline explosions in recent years. The most serious incident was the October 1998 Jesse fire, in which over 1,000 people died. In an effort to stop vandalism, the Nigerian government ordered satellite equipment from the United States to monitor pipeline and oil installations in the Niger Delta region. The Federal government also ordered the navy to sink any ship conveying crude products that cannot be accounted for. The government estimates that as much as 300,000 bbl/d of Nigerian crude is illegally bunkered (freighted) out of the country. In December 2000, Nigeria reinstated the death penalty for vandalism of pipelines and electricity infrastructure.

Nigeria is one of the world's leading oil exporters, with production of around 2.6 million bbl/d of oil (of which 2.4 million bbl/d is crude), and with net oil exports of around 2.3 million bbl/d, including 1.1 million bbl/d to the United States.

Saudi Arabia

Saudi Arabia, the largest oil producer in the world, faces threats against its oil infrastructure from domestic militants.

On August 8-9, 2005, "credible reports" of a possible militant attack in Saudi Arabia prompted the closure of U.S. embassy and consulate facilities in the country. This came after several months of relative quiet, following a December 2004 attack on the U.S. consulate in Jeddah which killed five staff members. Also in December 2004, two car bombs had exploded in Riyadh, wounding several people. During the first two weeks of June 2004, several Westerners were murdered, including one who was kidnapped and beheaded. Even before these recent attacks, several terrorist incidents in April and May 2004 (at ABB Lummus offices in Yanbu, security headquarters in Riyadh, and a residential compound in Khobar) had raised concerns about security in the Kingdom. Specifically, these concerns centered around Saudi oil facilities as well as the 3,000 Western oil workers in the Kingdom. Meanwhile, in mid-December 2004, a Saudi branch of al-Qaeda posted a message on its website urging its members to "strike all foreign targets and the hideouts of the tyrants to rid the peninsula of the infidels and their supporters."

In late April 2004, Aramco's Chief Executive, Abdullah Jumah, said that "there is nowhere in the world that oil facilities are protected as well as in Saudi Arabia." According to Jumah, Aramco employs 5,000 security guards to protect oil facilities. In addition, the Saudi National Guard, regular Saudi military forces, and Interior Ministry officers are tasked with protecting oilfields, pipelines (the country has around 10,000 miles), ports (Ras Tanura, Al Juaymah, Yanbu), refineries, and other oil facilities (gathering centers, gas-oil separation plants, etc.). In May 2004, Nawaf Obaid, an advisor to the Saudi royal family, said that the Saudi government had added $750 million to its security budget over the past two years to beef up security in the oil sector. According to Obaid, the Saudis spent $5.5 billion in 2003 on oil security. In addition to direct security, Saudi Arabia is known to maintain "redundancy" (i.e., multiple options for transportation and export) in its oil system, in part as a form of indirect security against any one facility being disabled.

Saudi Arabia maintains crude oil production capacity of around 10.0-10.5 million bbl/d, while producing around 9.5 million bbl/d. This leaves Saudi Arabia with 0.5-1.0 million bbl/d of surplus production capacity, at least on paper, in order to make up for supply losses elsewhere in the world and to help maintain oil prices at desired levels. In recent months, however, with world oil demand surging, with a variety of potential oil supply disruptions, and with OPEC spare capacity outside of Saudi Arabia essentially exhausted, questions have been raised about the need for Saudi Arabia to boost its production capacity. Saudi Arabia claims that it is "easily capable" of producing up to 15 million bbl/d in the future and maintaining that production level for 50 years, but others doubt this claim. Matthew Simmons of Houston-based Simmons and Company International, for instance, has disputed Aramco's optimistic assessments of Saudi oil reserves and future production, pointing to -- among other things -- more rapid depletion rates and a higher "water cut" than the Saudis claim. EIA's baseline forecast assumes that Saudi oil production capacity could reach 15.4 million bbl/d by 2020, and 16.3 million bbl/d by 2025.

Sudan

Sudan's oil exports continue to rise, but domestic instability and the threat of international sanctions could

The United States imposed economic sanctions against Sudan in November 1997, prohibiting trade between the two countries, as well as investment by United States companies and persons in Sudan, in order to "deprive the regime in Khartoum of the financial and material benefits of US trade and investment, including investment in Sudan's petroleum sector." In February 2000, the Clinton administration broadened the sanctions to include a prohibition against US citizens and companies conducting business with the Greater Nile Petroleum Operating Company (GNPOC),

hinder future export growth.

an international consortium of petroleum companies currently extracting oil from Sudan. The sanctions, however, did not apply to the foreign individual parent companies of GNPOC, which include Calgary-based Talisman Energy, Malaysia's Petronas, and the Chinese National Petroleum Corporation (CNPC). In October 2002, the US Congress passed the Sudan Peace Act, which outlines stiff sanctions, ranging from a downgrading of diplomatic relations to a UN arms embargo, that could be imposed on the Sudanese government if it negotiates in bad faith with the main southern rebel force, Sudan People's Liberation Army (SPLA).

As of January 2005, Sudan's estimated proven reserves of crude oil stood at 563.3 million barrels. Current oil production averages about 420,000 bbl/d, with exports of about 340,000 bbl/d. Output has been rising steadily since the completion of a vital pipeline in July 1999. Development of Sudan's oil resources has been highly controversial. Numerous international human rights organizations have accused the Sudanese government of financing wide-scale human rights abuses with oil revenues, including the mass displacement of civilians living near the oil fields.

In May 2004, after two years of negotiations (starting with the July 2002 Machakos Protocol), the government and SPLA reached agreement on several major issues -- sharing of oil revenues (50/50), the application of Islamic religious law (will not be applied in the South), self-determination for the southern Sudan (a referendum on secession will be held after a transitional period of six years), etc. On December 31, 2004, the Sudanese government and the SPLA finalized a comprehensive peace agreement, giving Sudan six months to formulate a new constitution and a transitional, decentralized national unity government in Khartoum, as well as a separate administration for the South. General elections will be held in the third year of a six-year transition period. In January 2005, SPLA leader John Garang requested the presence of United Nations (U.N.) peacekeepers from countries without interests in Sudanese oil. A final resolution of Sudan's civil war could greatly help the country's economy, lead to the lifting of various sanctions against the country, and encourage investment by foreign companies (including oil companies). In July 2005, Sudan's government lifted the country's State of Emergency, originally declared on December 12, 1999. However, in early August 2005, Garang was killed in a helicopter crash, leading to increased uncertainty over the stability of the country's peace agreement.

Meanwhile, a crisis in the western Sudanese region of Darfur has killed 70,000-340,000 people (estimates vary widely) and created as many as 2 million refugees over the past two years. Pro-government militia groups (known as the Janjaweed) have launched attacks against civilians, mainly non-Arab tribes, in the region, prompting the United States to call for a U.N. Security Council resolution and possible sanctions on the militia groups. The African Union also has demanded that Sudan arrest and prosecute the Janjaweed, and has sent a small number of troops to the region. The conflict in Darfur has complicated attempts at ending the country's larger civil war. It has also complicated oil exploration activities in the region, with the two main Darfur "rebel" groups - the Justice and Equality Movement and the Sudan Liberation Movement -- calling on Sudan's government to stop exploration drilling in region until a resolution to the conflict is reached.

In March 2000, Swedish company Lundin Oil was forced to suspend operations in Block 5A due to safety concerns and logistical problems associated with the construction of an access road to the site. In April 2005, Lundin said it was considering returning to Sudan following signature of a peace agreement. On March 27, 2003, OMV of Austria announced that the consortium of which it is a member -- along with Lundin, Petronas of Malaysia, and Sudapet of Sudan -- was renewing exploration activities in Sudan after being suspended in January 2002 due to a deteriorating security situation. In March 2003, Talisman -- under pressure by human rights organizations -- sold its 25 percent in GNPOC to India's national oil company, ONGC Videsh, for $770 million, leaving Sweden's Lundin as the only Western oil company with any equity in Sudan. Talisman -- and other western companies -- have left Sudan in recent years after being criticized heavily by human rights groups for cooperating with the Sudanese government. In turn, companies from Asia -- CNPC, Petronas, ONGC -- have taken their place. In August 2003, ONGC also acquired stakes in two Sudanese oil blocks, 5A and 5B, from OMV.

Venezuela

A labor strike in 2002-2003 at state-owned oil company PdVSA reduced Venezuela 's oil production by 80 percent and hindered future production expansion.

Venezuela has the largest conventional and unconventional crude oil reserves in the Western Hemisphere and is consistently among the top five net oil exporters in the world. Further, the country is amongst the top four supplies of oil to the United States. In the recent past, though, the country has experienced considerable social, economic, and political difficulties.

On April 12, 2002, Venezuela's military briefly ousted President Hugo Chavez after three consecutive days of general strikes that had severely curtailed the country's oil production, refining, and exports. Chavez returned to power, but the unrest continued. On December 2, 2002, opponents of Chavez organized a nationwide strike to call for an early referendum on the

President's rule. In mid-December, the strikers shut down a large portion of the country's oil industry, drastically reducing the production of Venezuelan oil and its delivery to internal and external markets. The general strike ended in February 2003, but the opposition was able to acquire enough signatures to force an August 2004 referendum on Chavez's rule.

Chavez won that referendum by a comfortable margin, and his party won swept local elections in September 2004, ending the immediate political crisis. However, Venezuela continues to suffer the lingering effects of this unstable period. Prior to the 2002-2003 strike, Venezuela produced around 3 million bbl/d of crude oil and lease condensates. Though the Venezuelan government claims that the country's crude oil production has returned to pre-strike levels, EIA and most industry analysts believe that the country currently produces around 2.7 million bbl/d of oil, of which 2.5 million bbl/d is crude oil. Further, recent changes to royalty and tax rates levied upon foreign oil operators have begun to cloud the investment climate in Venezuela's oil sector, which could affect the 50 to 60 percent of the country's oil production controlled by foreign operators.

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